

Claims

1. A method for the column-chromatographic separation of mixtures of materials using a fluid or a mixture of fluids which are gaseous at 25°C and 1 bar in a liquid, nonsubcritical and noncritical state as eluant.
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2. The method as claimed in claim 1, characterized in that the eluant is selected from the group consisting of liquid dinitrogen oxide, liquid fluorinated hydrocarbons and chlorofluorocarbons, liquid carbon dioxide, liquid sulfur hexafluoride, liquid propene, liquid propane,
10 liquid ammonia, liquid sulfur dioxide, liquid xenon, liquid ethane and mixtures thereof.
3. The method as claimed in claim 1, characterized in that the eluant has a dynamic viscosity of 10^{-4} - 10^{-5} Pa s, preferably $2 \cdot 10^{-4}$ - $2 \cdot 10^{-5}$ Pa s, a density of 0.5 - 1.2 g/ml, preferably 0.5 - 1.2 g/ml.
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4. The method as claimed in claim 1, characterized in that the eluant is liquid carbon dioxide, preferably in a temperature range from 0 to 20°C.
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5. The method as claimed in claim 1, characterized in that the eluant is liquid carbon dioxide in a pressure range from 30 to 150 bar.
- 25 6. The method as claimed in claim 1, characterized in that the eluant comprises at least one modifier.
7. The method as claimed in claim 1, characterized in that a column length of at least 10 cm is used.
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8. The method as claimed in claim 7, characterized in that a column length of from 0.25 to 2.0 m is used.
9. The method as claimed in claim 8, characterized in that a column length of from 1.1 to 1.7 m is used.
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10. The method as claimed in claim 1, characterized in that the stationary phase used is a modified or unmodified phase selected

Abstract

Column-chromatographic separation method

- 5 A description is given of a column-chromatographic separation method of the liquid chromatography type by means of eluants as mobile phase comprising lower molecules, preferably carbon dioxide, for the isolation and/or purification and/or preparative recovery of mixtures of (natural) materials.